# STERLING SCOOTERS

THE STERLING RANGE OF SCOOTERS FROM SUNRISE MEDICAL.

NOVEMBER 2005

INNOVATE BUILD
FOR THE FUTURE

# Users of Scooters

**Typical users of Scooters are people who:**

- Have some ability to walk, but are limited in distance or stamina (such as multiple Sclerosis, post-polio syndrome, stroke variationg, arthrithis, cardiac conditions and milder forms of cerebral palsy).
- Have good head and upper body control
- Have sufficient range of motion and co-ordination to reach and operate the controllers
- Can sit upright for extended periods of time
- Can usually transfer to and from the Scooter independently

# Why choose a Scooter?

- Scooters can be used to increase and extend the range of personal mobility
- Scooter users often have difficulty propelling manual wheelchairs, but do not require the seating systems and sophisticated controls that are common in powered wheelchairs

# What does the customer look for?

- Leg room – Does the Scooter fit me?
- A good seat – How comfortable/adjustable?
- Hand controls – Are they easy to reach/use?
- Size – Can it go where I want to go?
- Number of wheels – Do I need manoeuvrability or stability?
- Batteries – How far can I travel?
- After sales service – How will you support me?
- A good warranty – What is covered, and for how long?

# Understanding Scooters

**All Scooter models share the common set of components:**

- The base unit (consisting of base platform to support feet and batteries)
- The drive system
- Wheels

**Other common elements include:**

- Seat
- Seat post
- Tiller (steering and control mechanism)

# Understanding Scooters

## Base Unit

**The base unit can tell you:**

- If it's designed for indoor or outdoor use
- It's manoeuvrability
- The size of it's wheel base
- It's ground clearance
- It's turning radius
- Overall dimensions

# Understanding Scooters

## Base Unit

**Also, the base unit should:**

- Supply enough space to comfortably support the user's feet at a natural angle
- Permit the controls to be easily reached and manipulated
- Not tip easily during sharp turns or inclines

# Understanding Scooters

## Drive System

- If it's designed for indoor or outdoor use
- It's manoeuvrability
- The size of it's wheel base
- It's ground clearance
- It's turning radius
- Overall dimensions

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# What is a Scooter?

- A Mobility Scooter is a Class1 Medical Product.
  (Legal regulations & Standards)
- A Primary Mobility Device
- A Secondary Mobility Device

# Medical Devices Directive

- EN 12182 General Regulations
- EN 12184 Power Chairs & Scooters
- CE Marking
- ISO 7176

# Mobility Scooter Application

There are differences in mobility scooter drive principles, size, user environment, options & functions.

Understanding both the complementary & coherent characteristics, helps to match the needs & requirements of the customer to a suitable mobility scooter.

Regulatory definitions, divide mobility scooters into different segments. The segments may change  from country to country.

# Scooter Classification

## Road Traffic Act ( UK Only )

| | |
|---|---|
| CLASS 1. | Manual Wheelchairs Only |
| CLASS 2. | Scooters with a Maximum Speed of 4mph. |
| CLASS 3. | Scooters with a Maximum Speed of 8mph. |

# Scooter Definition & Segments

- Portable Mobility Scooters
- Indoor/Outdoor Mobility Scooters
- Outdoor / Indoor Mobility Scooters

# Portable Mobility Scooters

- Drive is usually provided by a DC Motor normally mounted at the front of the scooter but also the rear.
- Frame is usually derived from Aluminium or steel and is normally foldable / modular.
- Batteries are mostly maintenance free GEL or AGM type, 10 - 30AH.
- Integrated controls are normal but remote systems are sometimes used.
- Simple seating system.
- Highly manoeuvrable for indoor use but restricted when used outdoors.

# Indoor/Outdoor Scooters

- Drive is usually provided by a DC Motor - Transaxle assembly, normally mounted at the rear of the scooter.
- Frame is usually derived from ASteel and is normally foldable / modular.
- Batteries are mostly maintenance free GEL or AGM type, 30 - 40AH.
- Remote systems or Integrated controls are used with or without lights & indicators.
- Adjustable seating system.
- Suitably manoeuvrable for indoor use but with less restrictions when used outdoors.
- Usually a CLASS 2 vehicle

# Outdoor/Indoor Scooters

- Drive is usually provided by a powerful DC Motor - Transaxle assembly, normally mounted at the rear of the scooter.
- Frame is usually derived from Steel and may be ridged or foldable / modular.
- Batteries are maintenance free GEL or AGM type, 40 - 60AH.
- Remote systems are used including extended functions, Lights, Indicators, Hazards, Immobiliser etc.
- Adjustable seating system.
- Suitable for  various rough surface conditions.Can be used for indoor use but with  restrictions.
- Usually a CLASS 3 vehicle

# Choosing the correct Scooter

Factors that Determine the Appropriate Scooter for the Customer.

# Choosing the correct Scooter

- Body Height & Weight.
- Physical/Psychological Condition
- Age of the Person
- Home & Social Environment
- Intended Purpose

# Choosing the correct Scooter

- **In addition, the Scooter will also need to match the users lifestyle. Other considerations are:**
- Where the Scooter will be used?
  (indoors, outdoors or a combination of the both)
- Will the Scooter need to be transported, and how?
- Will it  be their primary mode of transportation?
- How far will the Scooter need to travel?

# Decision Matrix

| PERSONNEL CRITERIA | PORTABLE | INDOOR - OUTDOOR | OUTDOOR - INDOOR |
|---|---|---|---|
| **HEIGHT** | 1.75 M (5' 8") | 1.90 M + (6' 2") | 1.90 M + (6' 2") |
| **WEIGHT** | 100 KG (220 LBS.) | 113 - 120 KG (248 - 264 LBS.) | 137 - 150 KG (300 - 330 LBS) |
| **AGE** | ADULT | ADULT | ADULT |
| **PHYSICAL CONDITION** | REASONABLE UPPER BODY STRENGTH & GOOD CO-ORDINATION | REASONABLE TO GOOD UPPER BODY STRENGTH & GOOD CO-ORDINATION | GOOD UPPER BODY STRENGTH & GOOD CO-ORDINATION |
| **HOME BASE** | E.P.H., NURSING HOME, STUDIO FLAT AND LARGER | E.P.H., NURSING HOME, FLAT AND LARGER | LARGER FLAT OR HOUSE |
| **RANGE** | 20 KM (10 - 12 M) | 32 KM (20 M) | 40 KM (25 M) |
| **INTENDED USE** | DISMANTLING, STORAGE, SHOPPING CENTRES | SHOPPING CENTRES, HIGH STREETS AND RURAL AREAS | LONGER JOURNEYS, RURAL AREAS |

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# Portable Scooters

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# Sterling Little Gem

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# Sterling Little Gem

**Positioning - The lightweight scooter which is just amazingly simple to transport**

With little Gem you have the ideal partner when you want to be on the move. Sterling's little giant not only features excellent handling, it is a genuine lightweight .

# Sterling Little Gem

## Transportation just got simpler

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FOR THE FUTURE

# Sterling Little Gem

**This category of scooter is *meant* to be designed to go in the car …..**

**So this …..**

# Sterling Little Gem

## ….simply transforms

## ….to this "IN SECONDS"

# Sterling Little Gem

## Key Selling Points

- Unlike its competition Little Gem excels in the area of simple dismantling and re – configuration.
- No bolts
- No clips
- No wires
- Lowest weight components in it’s category

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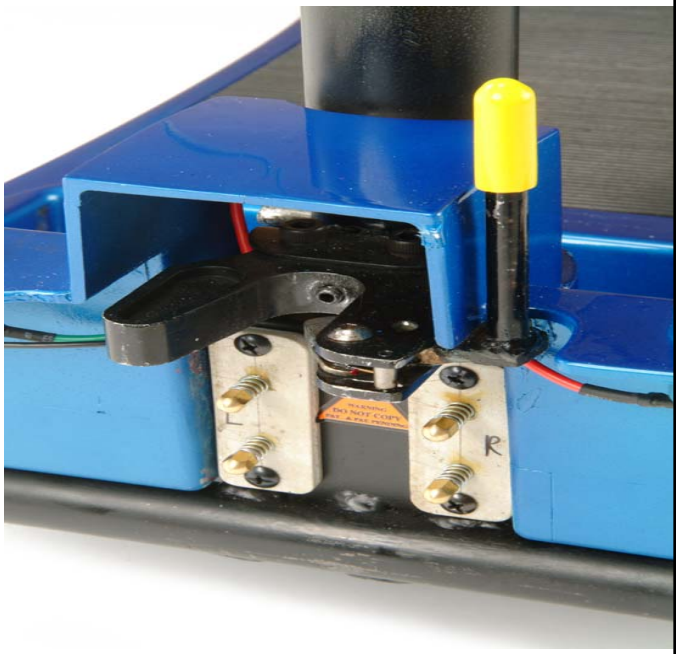
# Sterling Little Gem

## Key Selling Points

## Cables free connection – with GEM- Lock

- Elderly clients will almost certainly have reduced dexterity and ability to bend over trying to sort awkward cable connections



Thus the **GEM- Lock** concept

# Sterling Little Gem

## Key Selling Points

## No cable contacts

- No complicated connectors to try and undo and reconnect.
- Pull the yellow lever and you're away
- Limited dexterity required to connect rear & front end – **GEM-Lock** is self locating

# Sterling Little Gem

## Key Selling Points

### Easy to transfer with lightweight parts

# Sterling Little Gem

## Key Selling Points

## No compromise on comfort or safety

- The lightweight seat has padded seat and back cushions for added comfort
- Access is easy as GEM has a swivel seat
- Swing back arms rest make for easy access & security whilst driving

# Sterling Little Gem

## Key Selling Points

- Again getting the most comfortable driving position is so easy.
- Infinite adjustment is afforded through a soft  and large adjuster

# Sterling Little Gem

## Key Selling Points

- Lightweight battery pack
- No cables
- Storage space for charger
- Easy access charger point
- Large carrying handle

# Sterling Little Gem

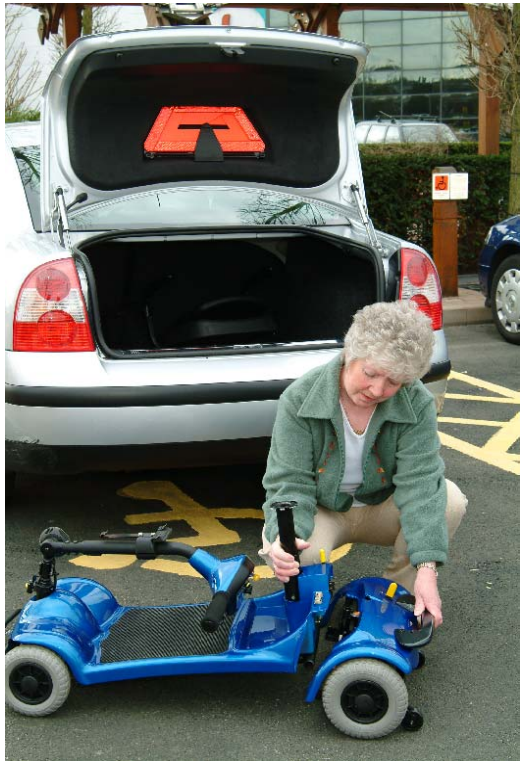
## Key Selling Points

Tiller angle adjuster with large soft knob for safety & comfort

Tiller lock eases transfer of the front end

# Sterling Little Gem

## Small pieces easily fit in most cars



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# Sterling Pearl

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# Sterling Pearl

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# Sterling Pearl

- **Based on the very successful Little Gem, the Sterling Pearl is a larger, more powerful and higher specification solution.**
- **Incorporates all of the superb transportability features of the Little Gem.**

# Sterling Pearl

## Key Selling Points

- Performance – 133kg user weight from a small scooter – 21ah batteries giving up to 24km range
- Aesthetics - stylish and attractive looks.
- Comfort and Convenience
- Available in metallic red and blue.

# Sterling Pearl

## Key Selling Points

- Lift off battery pack – 21ah batteries.
- Clean, simple, enclosed design with easy access to charger socket
- Powerful 3 amp charger

# Sterling Pearl

## Key Selling Points

- Uses the same revolutionary "GEM-LOCK" concept as the Little Gem.

# Sterling Pearl

## Key Selling Points

- Multi position adjustable tiller.
- Easy grip knob.
- Anti-rotation device for safe carrying.

# Sterling Pearl

## Key Selling Points

- Longer, wider and with larger wheels than Little Gem.
- Better performance and safety when used outdoors.

# Sterling Pearl

## Key Selling Points

- Detachable, rotating and height adjustable folding seat.
- Flip-up armrests that are also width adjustable.
- Most comfortable seat in its class.
- Padded seat and back – removable for cleaning.

# Sterling Pearl

| | Pearl – Red and Blue |
|---|---|
| Length | 103cm |
| Width | 56cm |
| Speed | 6kph |
| Range | 24km |
| Max Safe Angle | 8° |
| Max User Weight | 136kg |
| Batteries | 21ah |
| Total Weight | 52kg |
| Weight Heaviest Part | 16kg |
| Tyres | Solid – Front 19cm Rear 22cm. |

# Sterling Ruby+

# Sterling Ruby+

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# Sterling Ruby+

The Ruby wheelchair is an extremely lightweight power wheelchair designed for transportation and portability.

It’s also handy for people living in confined spaces who have trouble moving and storing heavy power wheelchairs.

# Sterling Ruby+

## Key Selling Points

- Ruby combines the benefits of a mobility scooter with the functionality of a power chair
- Indoor or occasional outdoor use
- Lightweight, portable, comfortable and cost-effective
- High-back and fully adjustable seat.
- Finger release battery pack
- Simple controller
- Breaks down to three pieces for easy transport
- Approved for transport on an aeroplane

# Sterling Ruby+

## Key Selling Points

## The Ruby +

- One of the lowest cost chairs in the marketplace.
- Small footprint is very helpful in confined spaces.
- Perfect as a second chair when traveling.
- Ideal for people who have difficulty walking distances or for long periods of time.

# Sterling Ruby+

## Key Selling Points

# Sterling Ruby+

## Key Selling Points

The Ruby consists of three main parts, making it ideal for transportation.

## Three main parts

# Sterling Ruby/Ruby+

## Key Selling Points

The seat is made of a light and dark gray vinyl. The Ruby+ features a high-back seat that is fully adjustable..

# Sterling Ruby/Ruby+

## Key Selling Points

The Ruby+ seat features a spring-loaded fold-down lever.

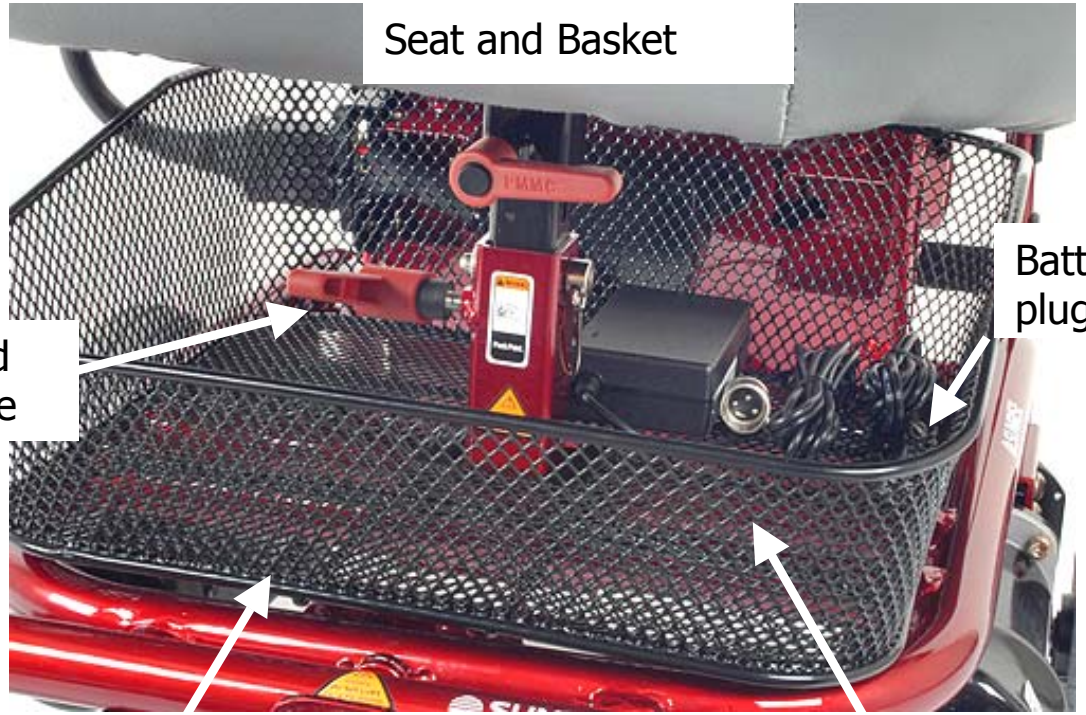
# Sterling Ruby+

## Key Selling Points

Ruby+ armrest – folds up

# Sterling Ruby+

## Key Selling Points

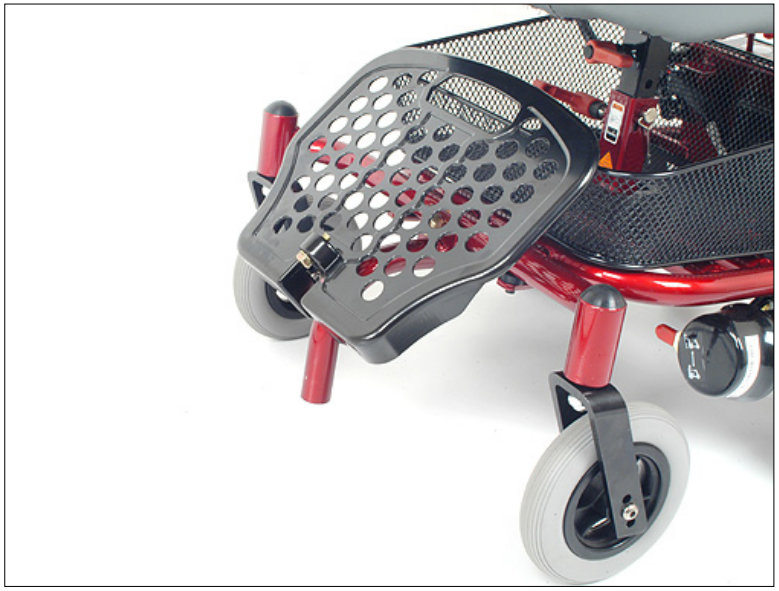

Seat and Basket
Battery charger plug and cord
Set screw used for seat release
Set screw to prevent wiggle
Seat-post height alignment pin

# Sterling Ruby+

## Key Selling Points

### Footrest

The footrest folds up for easy storage.



# Sterling Ruby+

## Key Selling Points

### Footrest

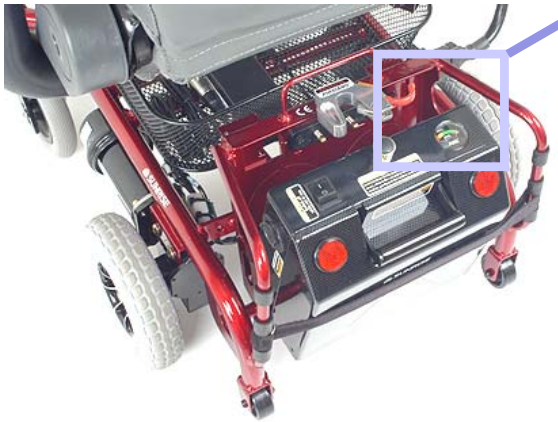
Front of the footplate is designed as a carrying handle.

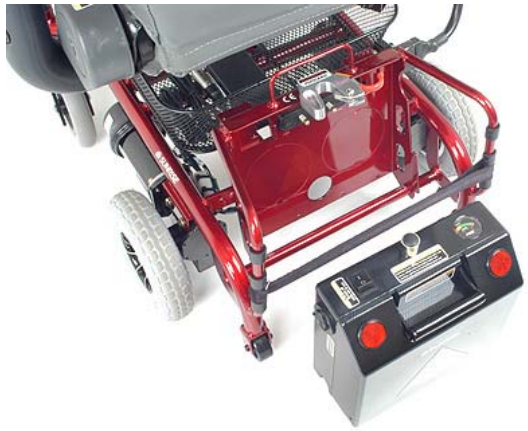
# Sterling Ruby+

## Key Selling Points

The battery features a quick-release lever for easy storage and removal.

Battery





# Sterling Ruby+

## Key Selling Points

The chair can be charged from the controller or directly into the battery pack. Each battery pack has two 12 amp batteries inside. The chair averages approximately 9 miles per charge.

*NOTE: the battery must be turned on during charging.*

Battery

# Sterling Ruby+

## Key Selling Points

Battery

circuit breaker reset switch

Controller connect socket

# Sterling Ruby+

## Key Selling Points

Freewheel release lever is placed inside to prevent accidental release.

Motor

# Sterling Ruby+

## Key Selling Points

Wheels

# Sterling Ruby+

| | **Ruby+** |
|---|---|
| Length (with footplate) | 89cm |
| Width | 48cm |
| Speed | 6kph |
| Range | 15km |
| Turning Radius | 72cm |
| Max safe climbing angle | 8° |
| Max safe kerb climbing | 1.5cm |
| User Weight | 100kg |
| Batteries | 12ah |
| Total Weight (exc batteries) | 29kg |
| Weight Heaviest Part | 20kg |
| Tyres | Solid |

# Indoor/Outdoor Scooters

# Sterling Sapphire

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# Sterling Sapphire

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# Sterling Sapphire

**Positioning – The industry gold standard for reliability with Sunrise contemporary styling!**

- New high quality, height adjustable Captain seat with width & angle adjustable armrests
- Sliding and rotating seat

# Sterling Sapphire

## Key Selling Points

- New two-tone paint work
- New chrome bumper plate
- Protective footplate
- Anodised wheels
- Narrowest in class, thus improved manoeuvrability

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# Sterling Sapphire

## Key Selling Points

- 5 point tiller adjustment

# Sterling Sapphire

## Key Selling Points

- Styled front & rear panel

# Sterling Sapphire

| | |
|---|---|
| Colour | 3 wheel Blue<br>4 wheel Blue and Red |
| Length<br>Width | 122cm<br>43cm |
| Max User Weight | 136kg |
| Speed | 6kph |
| Range | 36km |
| Batteries | 36ah |
| Total Weight Excl. Batteries | 38kg 3 wheel<br>44kg 4 wheel |
| Weight Heaviest Part | 21.5kg 3 wheel<br>27kg 4 wheel |
| Tyres | Pneumatic |
| Kerb climbing | 75mm |

# Sterling Sapphire LS

# Sterling Sapphire LS

## Positioning – VW Golf of the scooter world!

- If you are looking for a very compact 4mph scooter which also offers great outdoor performance, the Sapphire is the industry leader in it's class

# Sterling Sapphire LS

## The industry standard for reliability & value

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# Sterling Sapphire LS

## Key Selling Points

Narrowest in its class (21”) Affords great manoeuvrability but with excellent stability

# Sterling Sapphire LS

## Key Selling Points

Latest styling on the body for improved aesthetics

2 tone paint & chromed bumper

# Sterling Sapphire LS

## Key Selling Points

Tried & Tested controls for reliability & simplicity

Easy to read battery indicator, speed control & horn

Easy to access charge socket minimises bending

# Sterling Sapphire LS

## Key Selling Points

Width & height adjustable seat with extra padding for comfort

Sliding seat for leg positioning

Lighter seat for easier dismantling

# Sterling Sapphire LS

## Key Selling Points

Alloy wheels redesigned for style with value

# Outdoor/Indoor Scooters

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# Sterling Emerald

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# Sterling Emerald

## Positioning – Sports package in a small scooter

- If you are looking for a style and comfort in a compact package – the Emerald will catch your eye. Sporty look combined with a lively 6 mph maximum top speed and suspended chassis offers a sporty ride

# Sterling Emerald

## The standard for comfort & drive

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# Sterling Emerald

## Key Selling Points

Height, width & angle adjustable captain seat for added comfort

Slider for leg positioning & added comfort

360 degree swivel for ease of access

# Sterling Emerald

## Key Selling Points

Suspension – For additional comfort

All round for additional stability on rougher terrains

# Sterling Emerald

## Key Selling Points

11” wheels

Larger wheels improve outdoor manoeuvrability

New narrow tyres
for easier steering

New alloy wheels finish
for sporty looks

# Sterling Emerald

## Key Selling Points

Modern 2 tone styling

More stylish finish
and sporty look

# Sterling Emerald

## Key Selling Points

5 point adjustable tiller, offers adjustable seating position and optimum comfort

Full lights and indicator package for safety and convenience

# Sterling Emerald

## Key Selling Points

## Key specifications

Max user wt 137kg/21st
Range 22 miles
Overall length 48”
Overall width 22”

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# Sterling Diamond

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# Sterling Diamond

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# Sterling Diamond

## A Beautifully packaged 8mph Scooter

- If you are looking for a highly responsive drive and rugged performance in an economical package the Diamond will appeal
- High gloss black colour complements the quality styling.
- 150kg / 23.5st user weight
- Provides great stability for an performance outdoor scooter

# Sterling Diamond

## 8mph Scooter in a Compact and manoeuvrable design.

# Sterling Diamond

## Key Selling Points

"Dual Drive"

Choice of either
finger or thumb control
ideal for e.g.
clients with Rheumatoid
Arthritis

High/Low Speed Switch

# Sterling Diamond

## Key Selling Points

Visible front and rear suspension for added comfort and safety.
Narrow tyre profile gives increased stability and lighter steering.

# Sterling Diamond

## Key Selling Points

Fully adjustable seat for superior comf

Swivel for easier access

Width adjust

Seat slider

Backrest Recline

# Sterling Diamond

## Key Selling Points

Stylish Alloy Wheels and
Black Tyres

# Sterling Diamond

## Key Selling Points

Full lights and indicator package.
Hazard Warning Lights

# Sterling Diamond

| | |
|---|---|
| Colour | High Gloss Black |
| Length<br>Width | 130cm<br>64cm |
| Max User Weight | 150kg |
| Speed | 12.5kph |
| Range | 38km |
| Batteries | 50ah |
| Total Weight Excl. Batteries | 106kg |
| Tyres | Pneumatic – 33cm diamater |
| Max Gradient | 12 degrees |

# Sterling Elite XS

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# Sterling Elite XS

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# Sterling Elite XS

## Key Selling Points

- Seat
  - Extra lateral support
  - Angle adjustable backrest
  - Adjustable seat height 48 – 55 cm
  - Flip up armrests
  - 8 locking positions, 360 degrees rotation
  - Seat slider
- Front suspension, rear shock absorbers

# Sterling Elite XS

## Key Selling Points

Easy to adust tiller

- Infinite adjustment
- Wig-wag, finger and/or thumb control
- Angle adjustable handle bar

Legroom

- The largest legroom on the market
- Most leg positions accomodated
- Easy to access seat

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# Sterling Elite XS

## Key Selling Points

- Easy to operate control panel
- Wig-wag control
- Easy to reach charging plug
- Big basket
- Locking storage compartment

# Sterling Elite XS

## Key Selling Points

- Easy to access
  - batteries
  - fuses
  - programming socket
  - control box
  - motor (motor, brake and transaxle separately available)
  - main loom
- Easy to remove PCB/display
- Schematics and top-parts lists inside battery cover

# Sterling Elite XS

## Key Selling Points

- Sport style alloy wheels
- Modern sleek design
- High lustre paint finish

# Sterling Elite XS

| | 3 wheel | 4 wheel | 3 Wheel Compact |
|---|---|---|---|
| Colour | Blue | Red<br>Blue | Blue |
| Length<br>Width | 138cm<br>67cm | 138cm<br>67cm | 129cm<br>67cm |
| Max User Weight | 150kg | 150kg | 150kg |
| Speed | 12kph,<br>15kph | 12kph, | 12kph |
| Range | 57km | 57km | 57km |
| Batteries | 56ah, 74ah | 56ah, 4ah | 56ah, 74ah |
| Weight Excl. Batteries | 82kg | 87kg | 80kg |
| Weight Heaviest Part | 64kg | 69kg | 62kg |
| Tyres | Pneumatic | Pneumatic | Pneumatic |
| Kerb climbing | 125mm | 125mm | 125mm |